

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Signe M. Christenson et al.                      Art Unit : 1635  
Serial No. : 10/535,472    Examiner : Louis V. Wollenberger, Ph.D.  
Filed : December 19, 2005    Conf. No. : 4416  
Title : AMINO-LNA, THIO-LNA AND ALPHA-L-OXY-LN

**Mail Stop Amendment**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

RESPONSE TO RESTRICTION REQUIREMENT

In the action mailed 9 November 2007, the Examiner stated that Applicant's 1 August 2007 response to the Restriction Requirement mailed on 27 March 2007 was non-responsive.

Applicant hereby withdraws the election made 1 August 2007. Applicant requests that Applicant be permitted to elect a pharmaceutical composition comprising an oligonucleotide comprising at least one alpha-L-oxy-LNA. Applicant asks to make this election in lieu of originally elected Group III as described in the Restriction Requirement mailed 27 March 2007. Group III is drawn to a pharmaceutical composition comprising an oligonucleotide comprising at least two consecutive alpha-L-oxy-LNA. Group I is drawn to a pharmaceutical composition comprising an oligonucleotide comprising at least one amino LNA. Group II is drawn to as drawn to a pharmaceutical composition comprising an oligonucleotide comprising at least one thio LNA.

Applicant recognizes that none of Groups I, II and III are drawn to a pharmaceutical composition comprising an oligonucleotide comprising at least one alpha-L-oxy-LNA. However, such claims are supported by the specification. For example, molecule 2013-t in Table 8 (paragraph 0196) is such a molecule.

In responding to the restriction requirement mailed 27 March 2007, Applicant elected a particular oligonucleotide. In the action mailed 7 November 2007 the Examiner explained that this election was not pertinent to the present claims (43-68) and that he was requesting that

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Applicant must elect among the alternative structures in each claim having alternatives. For example, in claim 43, Applicant must elect: 1) A-B-C or C-B-A as the generic formula and 2) the inclusion of either erythro-pentofuranosyl or ribo-pentofuranosyl in portion B. Applicant appreciates the Examiner's clarification of this requirement to elect a single inventive concept rather than a single species. Applicant's selection among the alternatives in each claim having alternatives is indicated below by marking each selection in **underlined bold** text. Applicant has not recited all of the pending claims below. Instead Applicant lists only those claims which Applicant believes are subject to the Examiner's requirement that Applicant choose among alternatives.

Applicant understands that under linking claim practice, if claim 43 is found allowable, the remaining claims that include the limitations of claim 43 will be rejoined and examined for patentability. Thus, it is Applicant's understanding that under such circumstances the claims rejoined examined will be limited only by the limitation then present in claim 43. Thus, the rejoined and examined claims will not be limited by the various selections specified herein below, for example, the selection below in claim 59 that the overall oligonucleotide length is 15 nucleotide units.

43. A pharmaceutical composition comprising:

(i) an oligonucleotide consisting of between 10-30 nucleotide units, which contains three adjacently located nucleotide sequences, A, B and C, in the following order (5' to 3'):

**A-B-C** or C-B-A,

in which

A consists of between 2 and 10 nucleotide units, wherein between 1 and 5 of the nucleotide units in A are locked nucleotide units;

B consists of between 1 and 10 nucleotide units, wherein B comprises nucleotide units selected from the group consisting of **2'-deoxy-erythro-pentofuranosyl**, ribo-pentofuranosyl and alpha-L-oxy LNA nucleotide units, wherein B comprises at least one alpha-L-oxy LNA nucleotide unit;

C consists of between 2 and 10 nucleotides units wherein between 1 and 5 of the nucleotide units in C are locked nucleotide units; and

(ii) a pharmaceutical carrier.

46. The pharmaceutical composition according to claim 45, wherein the locked nucleotide units in A and C are selected from the group consisting of **oxy-**

LNA, thio-LNA and amino-LNA nucleotide units, wherein the LNA nucleotide units are in either the alpha configuration or the beta configuration.

54. The pharmaceutical composition according to claim 45, wherein A consists of 1, 2, 3, 4 or 5 LNA nucleotide units.

55. The pharmaceutical composition according to claim 45, wherein C consists of 2, 3, 4 or 5 LNA nucleotide units.

56. The pharmaceutical composition according to claim 54, wherein C consists of 2, 3, 4 or 5 LNA nucleotide units.

59. The pharmaceutical composition according to claim 45, wherein the oligonucleotide consists of 13, 14, 15, 16 or 17 nucleotide units.

62. The pharmaceutical composition according to claim 45, wherein B consists of 5, 6, 7 or 8 nucleotide units.

64. The pharmaceutical composition according to claim 45, in which the linkages between the nucleotide units in the oligonucleotide comprise internucleotide linkages selected from the group consisting of -O-P(O)<sub>2</sub>-O-, -O-P(O,S)-O-, -O-P(S)<sub>2</sub>-O-, -NR<sup>H</sup>-P(O)<sub>2</sub>-O-, -O-P(O,NR<sup>H</sup>)-O-, -O-PO(R'')-O-, -O-PO(CH<sub>3</sub>)-O-, and -O-PO(NHR<sup>N</sup>)-O-, where R<sup>H</sup> is selected from hydrogen and C<sub>1-6</sub>-alkyl, and R'' is selected from C<sub>1-6</sub>-alkyl and phenyl.

68. The pharmaceutical composition according to claim 45, which further comprises other antisense compounds, chemotherapeutic compounds, antiinflammatory compounds and/or antiviral compounds.

Claims 43, 44, 45, 46, 47, 54, 55, 56, 57, 58, 59, 60, 62, 65, 66, 67 and 68 read on the elected inventive concept.

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A Petition for Extension of Time with the appropriate fee is submitted herewith via EFS by way of Deposit Account authorization. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 17 March 2008

/Anita L. Meiklejohn/  
Anita L. Meiklejohn, Ph.D.  
Reg. No. 35,283

Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110  
Telephone: (617) 542-5070  
Facsimile: (617) 542-8906

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